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The CORN EARWORM in sweet corn

HOW TO CONTROL IT

U. S. DEPARTMENT OF AGRICULTURE

LEAFLET NO. 411

THE CORN EARWORM
in Sweet Corn . . how to control it

The corn earworm[1] is the most destructive pest of corn in the United States. Sometimes it damages sweet corn so severely that the crop is unmarketable. Corn is its preferred food, but the corn earworm also feeds on other crops. When it occurs on tomatoes, it is called the tomato fruitworm; on cotton, it is called the bollworm.

DAMAGE

Only the larvae (earworms) of this pest cause damage. The adults, which are moths, do not feed on plant tissue, but they deposit eggs on the fresh silks.

Early in the season, the earworms attack the buds or central shoots of young corn and feed on the tender, unfolding leaves. This damage is commonly called budworm damage. When the tassels appear, the earworms feed on them. The leaf and tassel damage rarely affects corn production.

The most serious damage occurs when the earworms attack the ears. Newly hatched larvae first feed on the fresh silks, and can sever them. This prevents some pollination, and the affected kernels fail to develop. When the silks dry, the earworms move to the kernels at the ear tip. They frequently move to kernels halfway down the ear.

Damaged sweet corn must be trimmed before it is marketed or processed at the cannery. The market price for trimmed corn is considerably lower than for untrimmed corn—and trimming increases the labor cost of processing.

DEVELOPMENT

The life cycle of the corn earworm has four stages—egg, larva, pupa, and adult. The number of generations that occur in a year depends on the climate. In a very mild climate, such as that of southern Florida, parts of States bordering the Gulf of Mexico, and southern California, the insect completes its life cycle in about a month, and can produce as many as seven generations in a year. In much of the Corn Belt, it produces three or four generations in a year. In the northernmost part of the country, it has only one generation.

The Eggs

Female moths lay tiny, globular eggs on the silks or other parts of the corn plant. When the eggs are first laid, they are a light yellowish green that appears almost white. When they are ready to hatch into larvae, usually in 2 to 8 days, they are dusky brown.

The Larvae

Newly hatched larvae are yellowish white, and have black heads. Those that hatch on the leaves of young corn first feed in the central whorl of the leaves, then on the tassels, and finally on the ears. Those that hatch on the silks feed on the silk mass inside the tips of the husks, and then on the ears.

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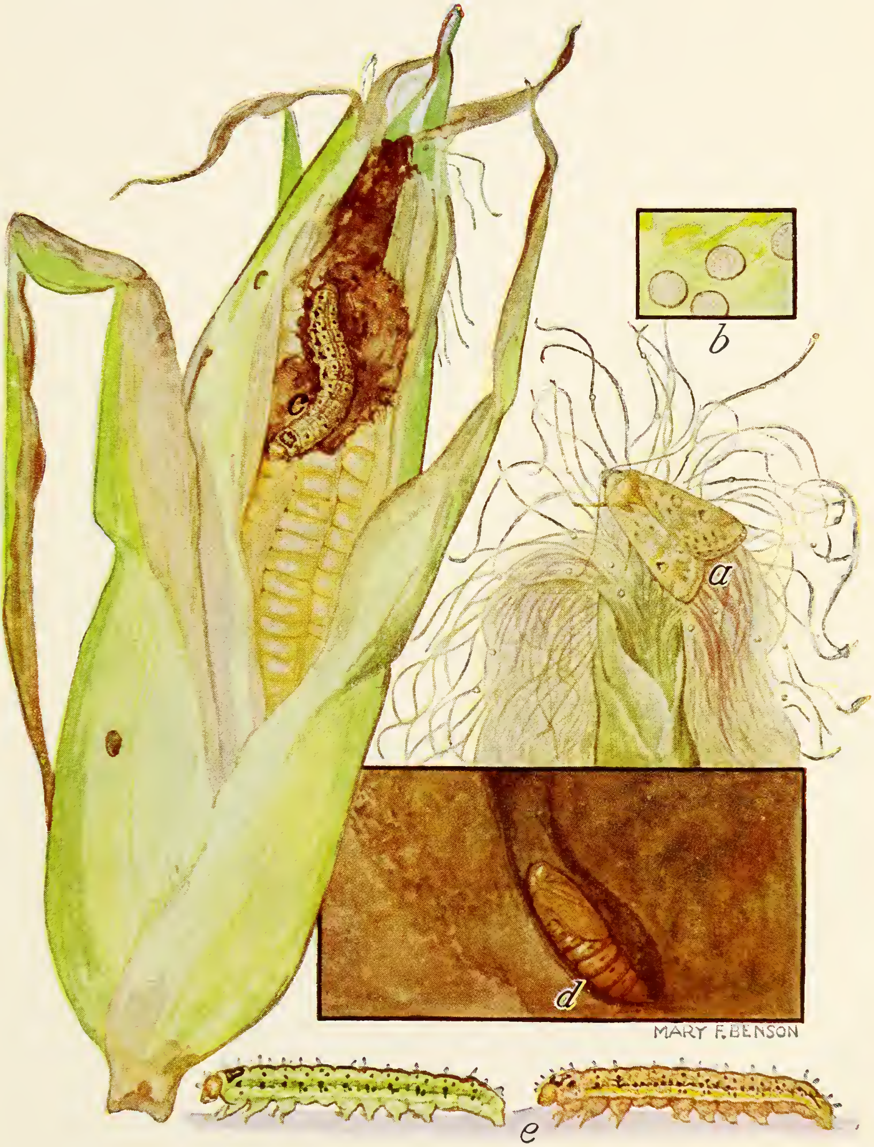
[1] *Heliothis zea.*

The time required for larvae to reach full growth depends on temperature; it ranges from 13 to 28 days. Full-grown larvae are up to 1½ inches long. They vary in color. Some have conspicuous cream, yellow, brown, slate, or black stripes. Others do not have stripes, and may be pink, green, cream, or yellow.



a, Moth (or adult), and eggs on silk; *b*, eggs; c, earworm feeding in ear of corn; *d*, pupa in a cell; e, color phases of the earworm. (All, except *b*, about 1⅓ times natural size; *b*, 5½ times natural size.)

ears. The nozzle should be of a size that dispenses 25 gallons of spray per acre at 100 to 140 pounds pressure when moving at the rate of 3 miles per hour.

Guide for preparing spray

Insecticide and formulation	Amount of insecticide[1] to mix with—	
	25 gallons of water	1 gallon of water
DDT, 25-percent emulsifiable concentrate	1 gallon (2 pounds)	⅓ pint
Carbaryl (sevin), 85-percent sprayable	1¾ pounds	1 ounce
Carbaryl, 50-percent wettable powder	3 pounds	2 ounces

[1] If the insecticide you use contains more or less of the active ingredient than specified in the table, mix proportionately more or less of it with the water.

Trade names are used in this publication solely for the purpose of providing specific information. Mention of a trade name does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture or an endorsement by the Department over other products not mentioned.

When applying carbaryl, use a 50-mesh screen in the spray nozzle, to prevent clogging; when applying DDT emulsion, use a 100-mesh screen. Clean the screens in the spray line and in spray nozzles frequently, particularly when using carbaryl.

EARLY SPRAYING.—To reduce budworm damage by the earworm before plants tassel or silk, use a sprayer that will apply the spray from above to the upper leaves, and to the ear shoots if any are present.

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Treating sweet corn in silk with high-clearance, self-propelled sprayer.

PRECAUTIONS

Insecticides used improperly can be injurious to man and animals. Use them only when needed and handle them with care. Follow the directions and heed all precautions on the labels.

Some States have special restrictions on the use of certain insecticides. Before applying insecticides check State and local regulations.

Keep insecticides in closed, well-labeled containers in a dry place. Store them where they will not contaminate food or feed, and where children or animals cannot reach them.

When handling an insecticide, wear clean, dry clothing.

Avoid prolonged contact of insecticide with your skin.

Wear protective clothing and equipment if so specified on the container label. Avoid prolonged inhalation of insecticide dusts or mists.

Avoid spilling insecticide concentrate on your skin, and keep it out of your eyes, nose, and mouth. If you spill any on your skin, wash it off immediately with soap and water. If you spill it on your clothing, change clothing at once and launder it before using again.

After handling an insecticide, do not eat, drink, or smoke until you have washed your hands and face. Wash your hands and face and any other exposed skin immediately after applying insecticide.

Do not feed husks or other parts of the corn plants that have been treated with DDT to dairy or meat animals.

To protect water resources, fish, and wildlife, do not contaminate lakes, streams, or ponds with insecticides. Do not clean spraying equipment or dump excess spray material near such water.

To protect honey bees and other pollinating insects that are necessary in the production of many crops, apply insecticide, when possible, during hours when the insects are not visiting the plants.

Avoid drift of insecticides to nearby bee yards, crops, or livestock.

Dispose of empty insecticide containers at a sanitary land-fill dump, or bury them at least 18 inches deep in a level, isolated place where they will not contaminate water supplies. If you have trash collection service, wrap small containers in heavy layers of newspapers and place them in the trash can.

PROTECT

Use Pesticides Safely

FOLLOW THE LABEL

U.S. DEPARTMENT OF AGRICULTURE

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